



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D6101-007
Job Sheet 175915



5069074

Part No: D6101-007

Job Qty: 50 ea

Part Name: Saddle Billet



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/12/18

Job Tracking No:

Due Date: 5/8/18

Created By: Chantal Lavoie

Type: Stock

Description:

Note: DWG REV B

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	50 pcs		5/8/18	0.00	0.00	Purchasing		DAS 11 MAY 09 2018
110	Packaging	50 pcs		5/8/18	0.00	0.00	Packaging2		9-88 MAT 11 5 8918
120	QC	50 pcs		5/8/18	0.00	0.00	QC6		DAS 9-88 MAT 11 5 8918
130	Packaging	50 pcs		5/8/18	0.00	0.00	Packaging3-2		DAS 21 9-88
140	QC21-SA	50 Ea		5/8/18	0.00	0.00	QC21		21 9-88 MAY 09 2018

Part Op 100 - Issue P/O: 39597 b) 7.750" x 8.250" x 2.50" thick d) Grain direction along 7.750" length
 Descriptions: 110 - Ensure material certification is attached
 120 - Ensure Material certification comply to Dwg D6101
 130 - LOCATION: MAT041

APR 13 2018

DAS
13
9-88

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D6101-007P	7075-T7351 8.25X7.75X2.5	50 pcs (1 ea)	100-Purchasing	

Job Allocations

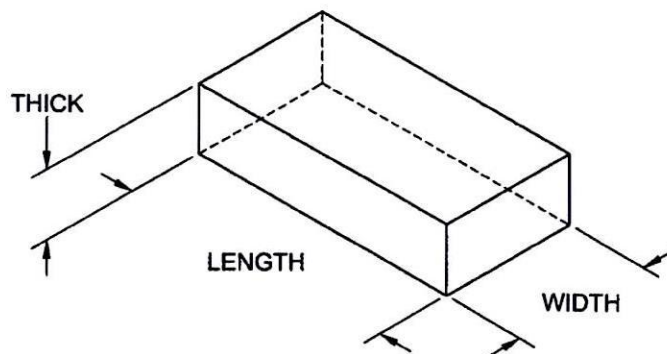
Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D6101-007P	50	20	0

Part Specifications

Specifications could not be found.

Plex 4/12/18 7:40 AM dart.lavoie.chantal

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/W

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D6101-007
 DATE: MAY 07 2018

PO / BATCH NO.: 039589/5069034

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 40 PCS
 QUANTITY INSPECTED: 40 PCS
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.500
 THICKNESS RECEIVED: 2.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒ N	
CORRECT FINISH	Y ☒ N	
CORROSION	Y ☒ N	
CORRECT GRAIN DIRECTION	Y ☒ N	
CORRECT MATERIAL PER M-DRAWING	Y ☒ N	QQ-A-250/12A
CORRECT THICKNESS	Y ☒ N	
PHOTO REQUIRED	Y ☒ N	
CORRECT REF # TO LINK CERT	Y ☒ N	Heat # 9413628 -
CORRECT MATERIAL IDENTIFICATION	Y ☒ N	
CORRECT M# ON THE MATERIAL	Y ☒ N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒ N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒ N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>11</u> <u>9-89</u> <u>MAY 07 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

INTERORG TRANSFER
PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3583406

Ship From: A. M. CASTLE & CO. 4175 ROYAL DRIVE SUITE 600 KENNESAW, GA 30144 USA		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped	F.O.B.	Freight Terms		Carrier		BOL No	
01-MAY-18	ORIGIN	Prepaid		XPO LOGISTICS FREIGHT		3583406-2	

Shipment Details	Final Destination Branch - TOR
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Order No 5112786	Line No 2	Item No 752241.MO	Description 2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT RECTANGLE TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) X 7.75 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12
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Purchase Order No 39599	Part Number YOUR ITEM NUMBER: D6101-007	Ordered Qty 50.00 PCS	Invoice Qty 40.00 PCS
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Details	ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS
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Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
121788370	CONSTELLUM ROLLED PRODUCTS			34			562.0773
121788370	CONSTELLUM ROLLED PRODUCTS			6			99.1901

INTERORG TRANSFER
PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

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These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Matthew Mason
A.M. Castle & Co.
1921 ST

Date:

Name:



Constellium Rolled Products
Ravenswood, LLC

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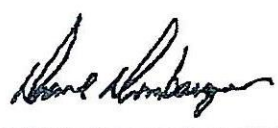
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A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS
67216
US

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A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL
60523
US

A M CASTLE		110644526		4776		INCLUSION		Serial:20180405-0110644526		Pg 1of3	
CUSTOMER PURCHASE ORDER NO. & ITEM 453753						Constellium ORDER NO. 232825					
ALLOY 7075	CLAD	TEMPER T7351	GAUGE 2.50000 in 63.50 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm		CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA  Dave Dunbarger - Laboratory Manager				
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS 4078J											
PART NUMBER 752241			B/L NUMBER 97582		DATE SHIPPED 04/05/2018						
WT. SHIPPED 10620.000 LB			NO. OF PIECES 000006		GOVT. CONTRACT NO.						

ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:

ASTM B594 REV 13 2013 100% SONIC W/ 0.12" DEADZONE Class A
AMS QQ-A-250/12A
AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE
ASTM B209-14
BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE
CMMP025 REV U
CST1006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE
DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE
GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE
MMS 159T
PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

Load Details

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001745311	1,770.000	802.858	9413626	01		
1001745311	1,770.000	802.858	9413626	02		
1001745312	1,770.000	802.858	9413626	03		
1001745312	1,770.000	802.858	9413626	04		
1001754246	1,770.000	802.858	9413628	01		
1001754246	1,770.000	802.858	9413628	02		

Lot: 9413626 (See test results below)

Tensile - Room Temperature (US)

		Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	75.7	76.0	64.2	64.7	11.5	12.0	





Constellium Rolled Products
Ravenswood, LLC

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A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS
67216
US

S
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D
T
O

A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL
60523
US

A M CASTLE		110644526		4776		INCLUSION		Serial:20180405-0110644526		Pg 2of3				
CUSTOMER PURCHASE ORDER NO. & ITEM 453753						Constellium ORDER NO. 232825								
ALLOY 7075		CLAD		TEMPER T7351		GAUGE 2.50000 in 63.50 mm		WIDTH 48.50000 in 1,232 mm		LENGTH 144.50000 in 3,670 mm				
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CUSTOMER SPECIFICATION AMS 4078J														
PART NUMBER 752241			B/L NUMBER 97582									DATE SHIPPED 04/05/2018		
WT. SHIPPED 10620.000 LB			NO. OF PIECES 000006									GOVT. CONTRACT NO.		

Tensile - Room Temperature (SI)

Direction	Tests	Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report
		Min	Max	Min	Max	Min	Max	
LT	02	522	524	443	446	11.5	12.0	

Conductivity % IACS MIN 40.0 MAX 40.1 % MS/M MIN 23.2 MAX 23.3

Chemistry (Actual)

	SI	FE	CU	MN	MG	CR	ZN	TI	ZR
Core	0.05	0.11	1.41	0.05	2.57	0.20	5.55	0.04	0.00

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

Lot: 9413628 (See test results below)

Tensile - Room Temperature (US)

Direction	Tests	Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
		Min	Max	Min	Max	Min	Max	
LT	02	74.6	74.8	63.6	63.8	12.5	12.5	





Constellium

naacap
Materials Testing Laboratory

Constellium Rolled Products
Ravenswood, LLC

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A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS
67216
US

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A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL
60523
US

A M CASTLE		110644526		4776		INCLUSION		Serial:20180405-0110644526		Pg 3of3																												
CUSTOMER PURCHASE ORDER NO. & ITEM 453753						Constellium ORDER NO. 232825			CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA  Dave Dunbarger - Laboratory Manager																													
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WT. SHIPPED 10620.000 LB		NO. OF PIECES 000006		GOVT. CONTRACT NO.																																		
Tensile - Room Temperature (SI) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Ultimate (N/MM2)</th> <th colspan="2">Yield (N/MM2)</th> <th colspan="2">Elongation (%)</th> <th>Report</th> </tr> <tr> <th>Direction</th> <th>Tests</th> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> <th></th> </tr> </thead> <tbody> <tr> <td>LT</td> <td>02</td> <td>514</td> <td>516</td> <td>439</td> <td>440</td> <td>12.5</td> <td>12.5</td> <td></td> </tr> </tbody> </table>														Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report	Direction	Tests	Min	Max	Min	Max	Min	Max		LT	02	514	516	439	440	12.5	12.5	
		Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report																														
Direction	Tests	Min	Max	Min	Max	Min	Max																															
LT	02	514	516	439	440	12.5	12.5																															
Conductivity % IACS MIN 40.0 MAX 40.9 % MS/M MIN 23.2 MAX 23.7																																						
Chemistry (Actual) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th></th> <th>SI</th> <th>FE</th> <th>CU</th> <th>MN</th> <th>MG</th> <th>CR</th> <th>ZN</th> <th>TI</th> <th>ZR</th> </tr> </thead> <tbody> <tr> <td>Core</td> <td>0.05</td> <td>0.10</td> <td>1.44</td> <td>0.04</td> <td>2.59</td> <td>0.19</td> <td>5.58</td> <td>0.04</td> <td>0.00</td> </tr> </tbody> </table>													SI	FE	CU	MN	MG	CR	ZN	TI	ZR	Core	0.05	0.10	1.44	0.04	2.59	0.19	5.58	0.04	0.00							
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Core	0.05	0.10	1.44	0.04	2.59	0.19	5.58	0.04	0.00																													
OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER																																						
All material contained in this lot was cast and manufactured in the USA																																						
QUALITY TEXTS: AMC CA-15413B R 6																																						
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. CHEMISTRY BY OES: ARKSPARK CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399 WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557 DUNS Number: 090570149; CAGE Code: 1YW19 Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product. "END OF CERTIFICATION"																																						
P-860-155D REVISED: 01 2018																																						



KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4472914

Lot: 233193B2 Cast 487 Drop 40 Ingot 3 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	69.5 : 69.8 (479 : 481)	58.4 : 58.5 (403 : 403)	10.6 : 11.1

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.9 Min	41.2 Max
(MS/M) :	23.7 Min	23.9 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.09	0.18	1.5	0.03	2.4	0.19	5.6	0.03	0.01	0.02	TOT 0.08

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS

AMC CA-15413B R 6

TEST NOTES

Metal represented by this test report was 100% Type 1
(immersion) ultrasonically tested from one side with 3mm
dead zones top and bottom and meets the Class A and Class B
requirements of all specifications referenced on this test
report. No surface marking of sonic indications is
performed.

CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this contract
* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
* test equipment and measuring devices are calibrated and certified in accordance with applicable specifications. For material thicknesses outside specification limits, mechanical properties are
as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation to fracture.
* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for
domestic content.
* has been thermally processed in compliance with AMS 2772, where applicable.
* is mercury free, within the limits of restriction of ASTM E1215 (<1ppm)
* is in compliance with RoHS 2, European Union Directive 2011/65/EU.
* is in compliance with European Chemical Agency, ECHA, REACH regulations (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
* is free of weld repair.
* meets the recording requirements of EN10204, Type 3.1.
Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in
full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on this certificate may be punished as a felony under federal law.

James Hemenway

JAMES HEMENWAY, TECHNICAL PROCESS MANAGER